



SMITHSONIAN Bionic Bug

Ages 8 and up

No. 2855

Conforms to ASTM D-4236

Dear Customer,

NSI is the manufacturer of this kit. We hope you enjoy your Bionic Bug. If you find that we have made an error or if something is missing or damaged, let us know so that we can correct the problem for you. Please do not return the kit to the store where you purchased it, or to the Smithsonian, as they do not have replacement parts. Instead, write us a letter and please include the following:

- Name of item
- Date of purchase
- Purchase price (please include sales slip)
- Model number
- Place of purchase
- Brief description of the problem

READ THE INSTRUCTIONS BEFORE USE, FOLLOW THEM AND KEEP THEM FOR REFERENCE. KEEP SMALL CHILDREN AND ANIMALS AWAY FROM EXPERIMENTS. STORE THE SET OUT OF REACH OF SMALL CHILDREN.

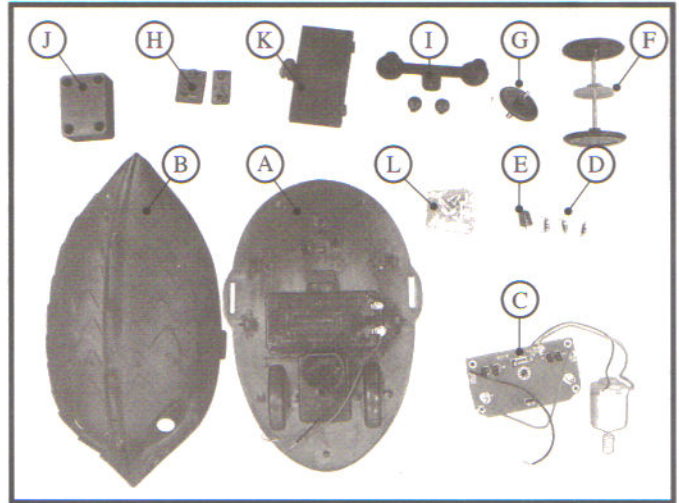
We will do our best to satisfy you.

Quality Control Department- NSI International, Inc.

105 Price Parkway Farmingdale, New York 11735-1318 Telephone: 888-425-9113

THIS SET INCLUDES:

- | | |
|--|--------------------------------------|
| A. Bug base housing with wires | G. 1 front wheel with axel |
| B. Bug top housing | H. 2 front wheel supports |
| C. Motor and PC board | I. Light sensor cover with two plugs |
| D. 3 resistors | J. Rear axel cover |
| E. 1 Red LED | K. Battery door |
| F. Large rear wheels with drive cog and axel | L. Screws |



ITEMS NOT INCLUDED THAT YOU WILL NEED:

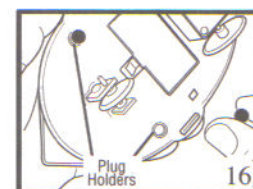
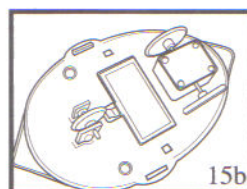
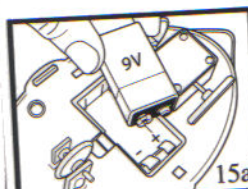
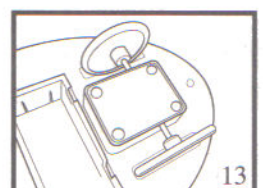
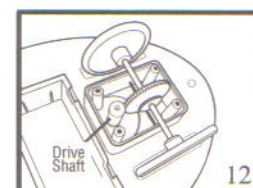
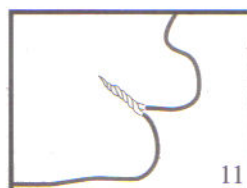
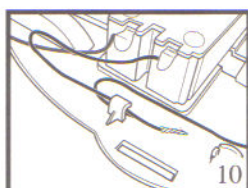
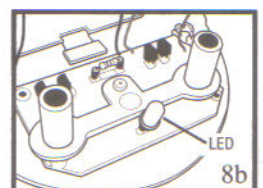
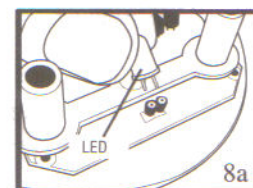
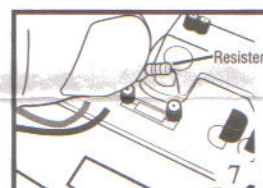
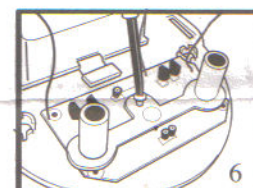
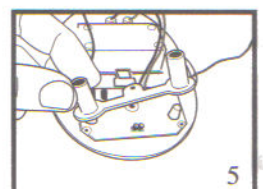
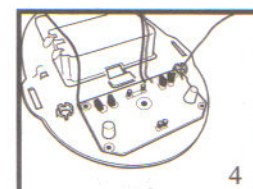
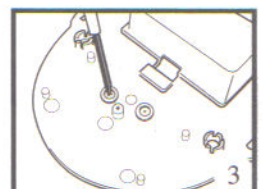
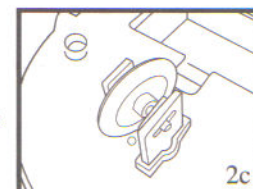
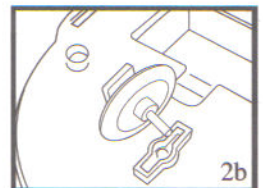
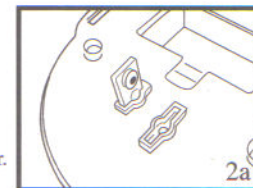
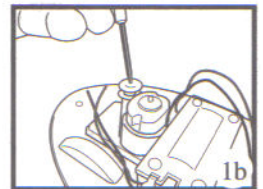
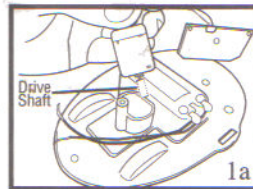
- (1) small Phillips head screwdriver
- (1) 9 Volt alkaline battery
- Flashlight with flashlight batteries

IMPORTANT BATTERY INFORMATION

- Non-rechargeable batteries are not to be recharged.
- Rechargeable batteries are to be removed from the toy before being charged.
- Rechargeable batteries are only to be charged under adult supervision.
- Different types of batteries or new and used batteries are not to be mixed.
- Only batteries of the same or equivalent type as recommended are to be used.
- Batteries are to be inserted with the correct polarity.
- Exhausted batteries are to be removed from the toy.
- The supply terminals are not to be short circuited.
- Keep packaging for reference since it contains important information.

HOW TO ASSEMBLE YOUR BIONIC BUG

1. Insert the motor into the motor compartment with the drive shaft facing in the down position. Locate the large screw and washer. Screw the motor in tightly. (Pictures 1a, b)
2. Turn the base over. Insert the front wheel supports and front wheel into the proper slots. The wheel goes into the slots first, than the supports slide into the slots on the base. (Pictures 2a, b, c)
3. Holding all three pieces in place (wheel and wheel supports), turn base over. Screw in place from the top of the base using two screws. (Picture 3).
4. Place the PCB board onto the base. Align it with the screw holes and guides. (Picture 4).
5. Place the light sensor cover over the light sensors. Put the 2 light sensor plugs into the holes. (Picture 5)
6. Locate a small screw and screw in the light sensor cover (Picture 6).
7. Three resistors (5 ohm, 15 ohm and 30 ohm) are included in the set. Assemble different resistor to the PCB board will give different speed of the bug. Four color strips are printed on the resistor. 5 ohm – Green, Black, Gold, Gold (For fast speed). 15 ohm – Brown, Green, Black, Gold (For medium speed). 30 ohm – Orange, Black, Black, Gold (For slow speed). Locate one of the three resistors and place each end into the R9 resistor holders marked on the PCB board. Press down gently. (Picture 7).
8. Take the red LED and place it into the JAC1 holder on the PCB board. Make sure when inserting that the alignment of the pins of LED matches the picture. Press gently. (Picture 8a, b).
9. Take the two black wires (one from the battery box and one from the PCB board) and twist the exposed copper ends together. (Picture 9)
10. Place the black wires underneath the raised notch on the side. (Picture 10)
11. Repeat step 9 using the red wires. (Picture 11)
12. Turn over the base. Place the rear wheels into the wheel well with the cog aligned with the drive shaft on the motor. (Picture 12)
13. Put the wheel cover over the wheel well. Screw in place using four screws. (Picture 13)
14. Locate the Bug top housing. Snap it down over the base (Picture 14).
15. Insert the battery following the instructions below about proper battery use. Put the battery cover in place and snap it down. (Pictures 15a,b).



TO OPERATE YOUR BIONIC BUG

16. Remove one of the plugs over the light sensors (eyes) and store underneath in the plug holders (picture 16).
17. Shine a flashlight over the plug removed light sensor (eye) and make the bug move. Direct the bug by moving your light. The light must always be shining on the light sensor for the bug to move (picture 17).

HOW TO INSTALL BATTERIES IN YOUR BIONIC BUG (adult supervision required)

1. Locate the battery compartment on the bottom of the Bionic Bug.
2. Snap the 9 Volt battery into place, properly aligning the connectors.
3. Put the battery compartment cover back into place and snap closed.